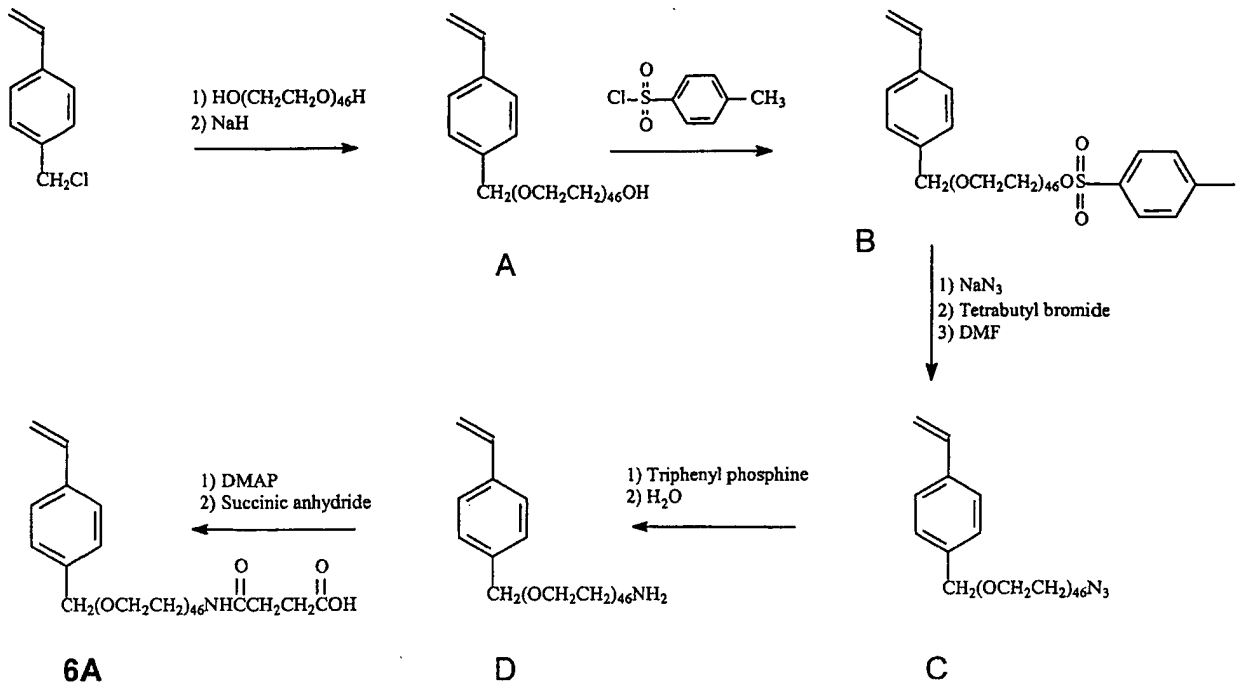
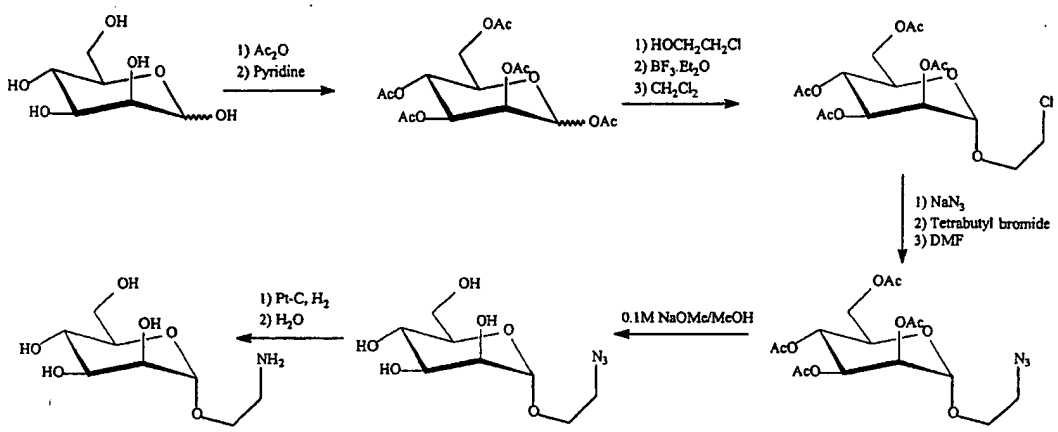

1) HO(CH2CH2O)46H
2) NaH
CH2Cl
CH2(OCH2CH2)46OH
A
Cl-S-CH3
B
CH2(OCH2CH2)46OS
1) NaN3
2) Tetrabutyl bromide
3) DMF
C
CH2(OCH2CH2)46N3
1) Triphenyl phosphine
2) H2O
D
CH2(OCH2CH2)46NH2
1) DMAP
2) Succinic anhydride
6A
CH2(OCH2CH2)46NHCCH2CH2COH

**Figure 1**


1) Ac2O
2) Pyridine
1) HOCH2CH2Cl
2) BF3.Et2O
3) CH2Cl2
1) NaN3
2) Tetrabutyl bromide
3) DMF
0.1M NaOMe/MeOH
1) Pt-C, H2
2) H2O

# Figure 2

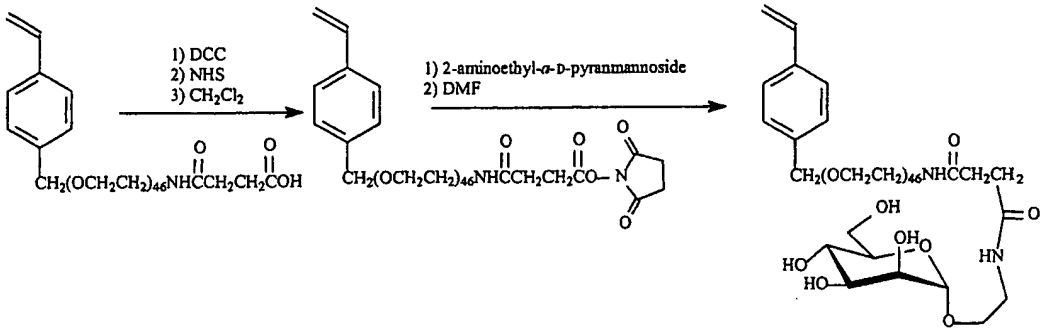



Figure 3

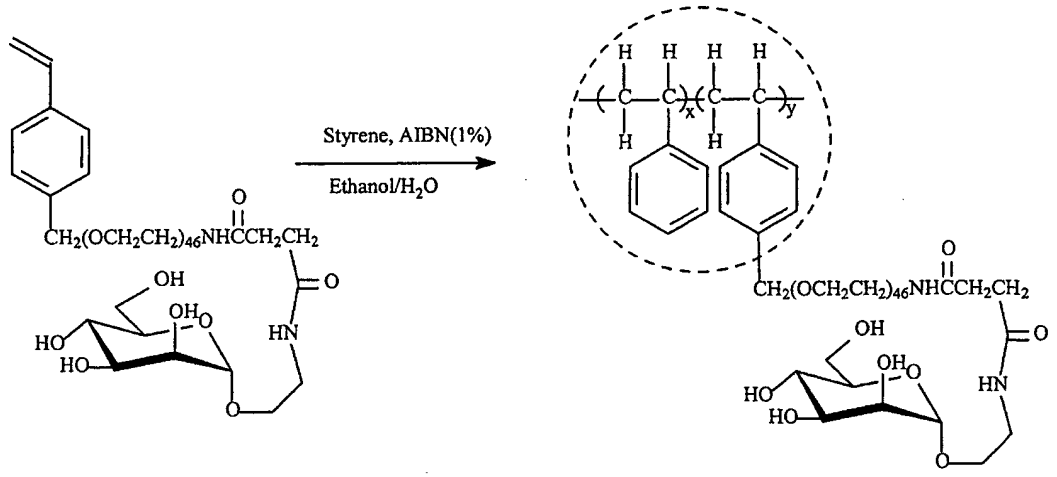
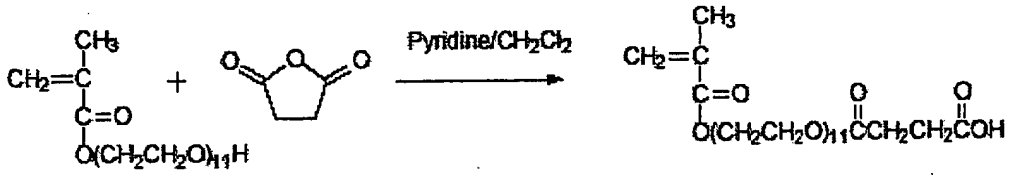
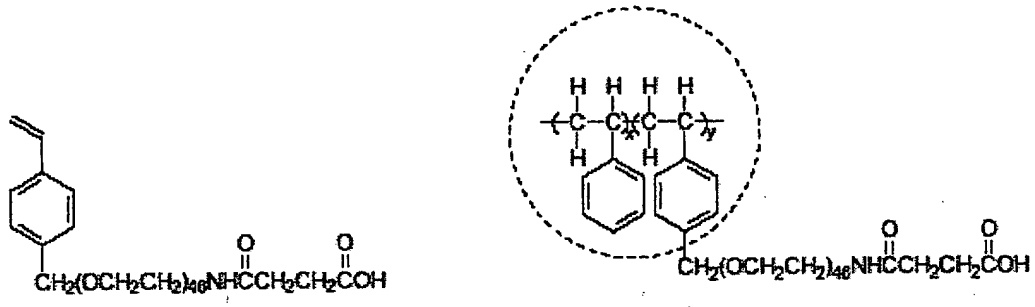



Figure 4



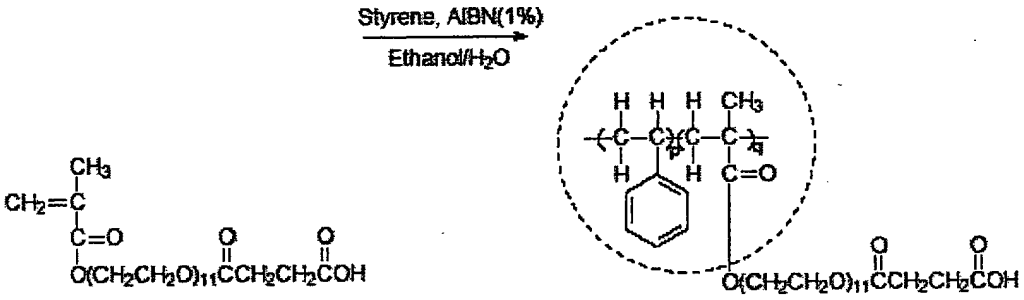

6B

# Figure 5



6A

Nanoparticle 6A




6B

Nanoparticle 6B

# Figure 6

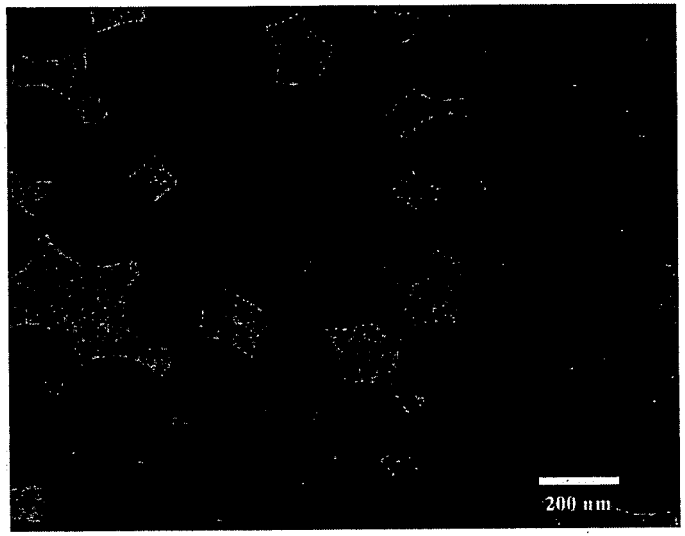



Figure 7

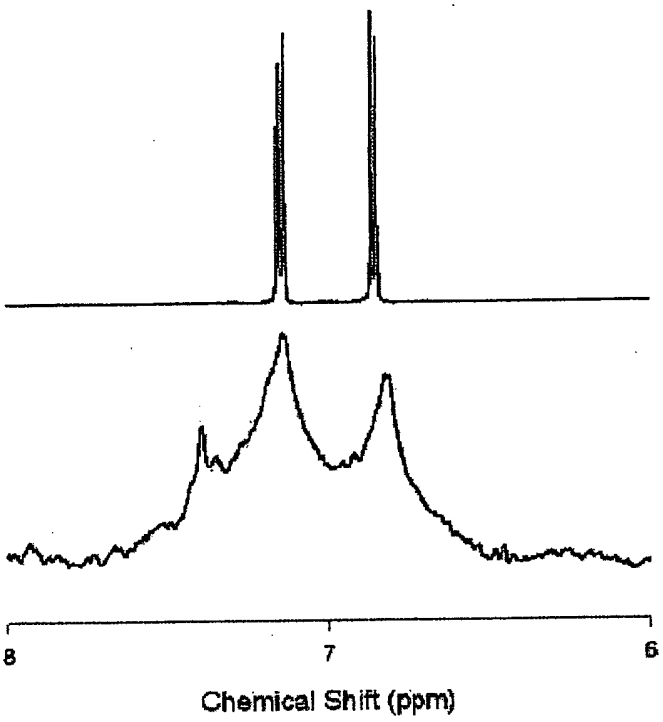



**Figure 8**

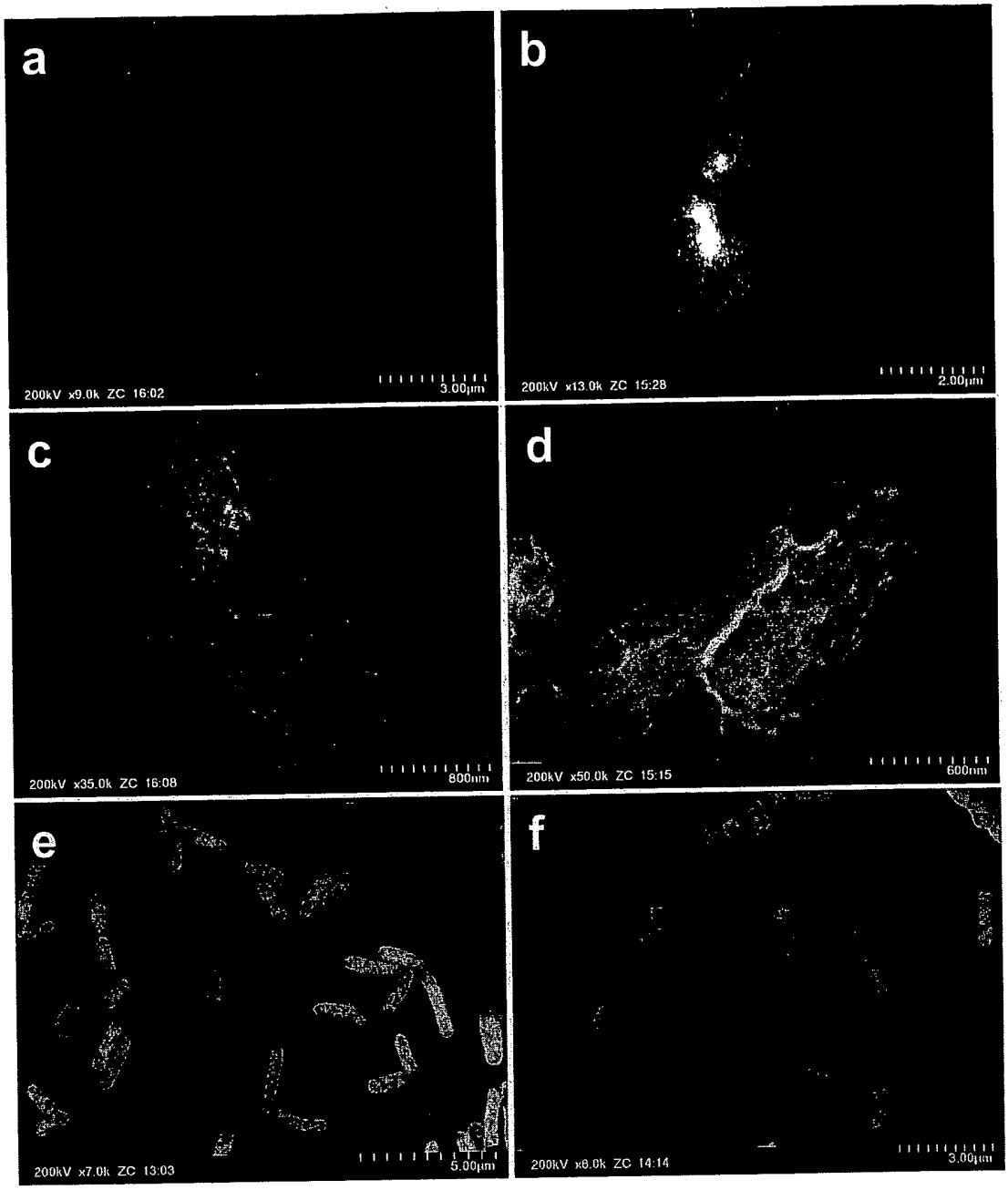

a
200kV x9.0k ZC 16:02
3.00µm
b
200kV x13.0k ZC 15:28
2.00µm
c
200kV x35.0k ZC 16:08
800nm
d
200kV x50.0k ZC 15:15
600nm
e
200kV x7.0k ZC 13:03
5.00µm
f
200kV x8.0k ZC 14:14
3.00µm

**Figure 9**

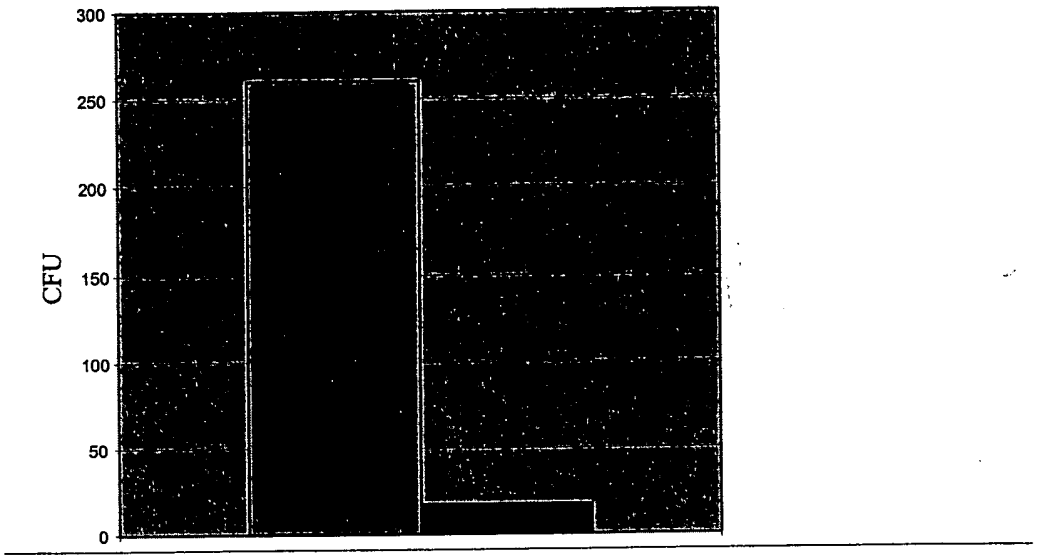



Figure 10A

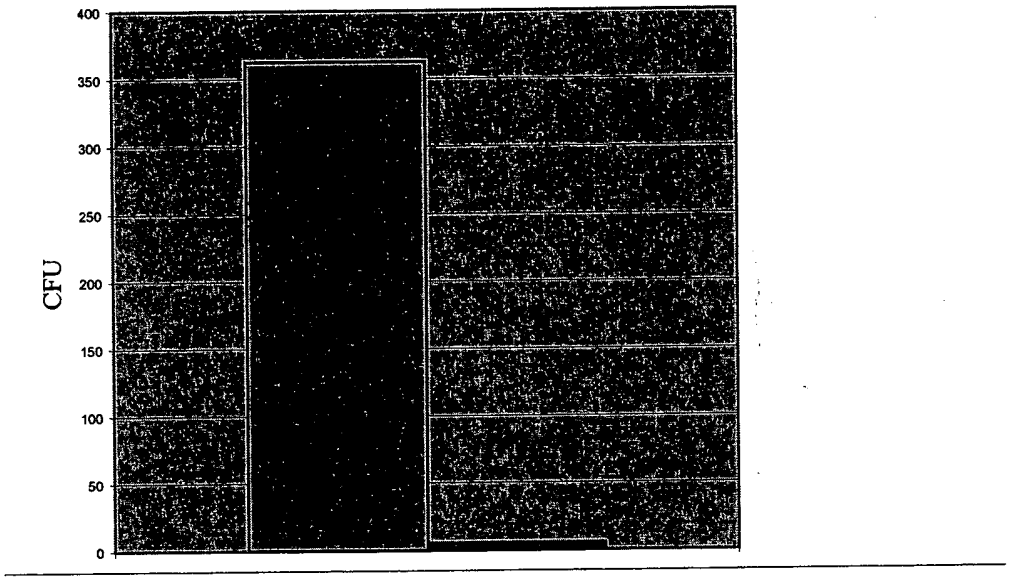



Figure 10B